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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
|---|---|---|---|

| EXAMINER |
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| ART UNIT | PAPER NUMBER |
|---|---|

**DATE MAILED:**

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/320,767 | GIANNOUKAKIS ET AL | |
| | Examiner | Art Unit | |
| | Eleanor Sorbello | 1633 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *09 April 2001* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-12 and 20-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 20-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

15) ☐ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
18) ☐ Interview Summary (PTO-413) Paper No(s). _____
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other: .

***Response to amendment***

1. Applicant's amendment and response to the official Office Action mailed October 4, 2000 as Paper No. 8, has been received and filed on March 18, 2001 as Paper No. 10B. Claims 1, 5 have been amended. Claims 1-12, 20-30 are pending. Applicant's amendments and arguments have been thoroughly reviewed, but are not persuasive for the reasons that follow. Any rejections not reiterated in this action have been withdrawn as being obviated by the amendment of the claims and/or applicant's argument.

2. Applicant's arguments are addressed below on a per section basis. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 5, 9, 20-25 stand rejected under 35 USC § 112, first paragraph (as containing subject matter that was not described) for reasons of record. Applicant's arguments have been fully considered but they are not persuasive.

Applicants state (see paragraph bridging pages 2 and 3 or Response received April 9, 2001 and filed as Paper No. 10B) that applicants disclose a number of different inhibitors of IL-1 activity and inhibitors of FAS mediated apoptosis. Applicants state that the distinguishing characteristics associated with IL-β inhibitors as described in the specification should satisfy the description requirements of the Office, as regards inhibitors of IL-1, and that a more detailed description should not be required. However, examiner maintains that applicants do not describe the nucleotide sequences referred to in the specification (of all inhibitors of IL-1 activity) which includes mutant forms of fas or FADD protein, members of the bcl-2 family (of all inhibitors of FAS mediated

apoptosis) etc. etc. (See specification page 18, ¶ 1). With the exception of the IL-1β inhibitors such as IL-1Ra, IGF-1 and IRAP wherein the nucleotide sequences are known in the art and are known to be IL-1β inhibitors, the application does not meet the written description provisions of 35 U.S.C. § 112 first paragraph.

4. Claims 1-12 and 20-30 stand rejected under 35 USC § 112, first paragraph for reasons of record.

Applicants argue that the claims now amended and directed to a method to treat beta cell dysfunction and Fas mediated beta-cell dysfunction by the administration of a nucleic acid molecule expressing the inhibitor of IL-beta or inhibitor of Fas mediated apoptosis, results in the reduction of beta-cell dysfunction, or the reduction of Fas mediated beta-cell dysfunction, are now enabled. (See Response, page 4 ¶ 2, and page 6 ¶ 2). Applicants argue that they have successfully transferred nucleic acid molecules into pancreatic beta cells. (See Response, page 5, ¶ 1, lines 11-13). However, examiner argues that *in vitro* administration of adenoviral vectors comprising the aforesaid nucleic acids to human islet cells, wherein successful expression occurs as evidenced by glucose measurements and NO production, cannot be extrapolated to that which occurs *in vivo* .

Therefore, claims 1-12 and 20-30 stand rejected as applicants did not teach one of skill in the art how to make and use invention as claimed.

5. Claims 20 and 25 stand rejected under 35 U.SC. 103(a) for reasons of record. Applicants contend that the prior art does not teach vectors that have the intended use as that claimed in the instant invention. (See Response, page 7). However, examiner

contends that these claims are being examined for features comprising the vector. The functional language of the claims do not lend any additional features to the vector, and the claims stand rejected as being unpatentable as they are directed to a vector that is rejected as being obvious over Monia in view of Crawford and Robbins.

6. Claims 20 and 26 stand rejected under 35 U.SC. 103(a) for reasons of record. Applicants argue that the claimed vectors are not rendered obvious in view of the cited references because none of the references teach the fact that the expression of an IL-1 beta inhibitor could reduce beta-cell dysfunction. (See Response, page 9, ¶ 2). As discussed above, examiner contends that these claims are being examined for features comprising the vector. The functional language of the claims do not lend any additional features to the vector, and the claims stand rejected as being unpatentable over Crawford in view of Robbins.

***Conclusion***

7. Claims 1-12 and 20-30 stand rejected.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication should be directed to Eleanor Sorbello, who can be reached at (703)-308-6043. The examiner can normally be reached on Mondays-Fridays from 6.30 a.m. to 3.00 p.m. EST.

Questions of formal matters can be directed to the patent analyst, Tracey Johnson, whose telephone number is (703) 305-2982.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Clark, can be reached on (703) 305-4051. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4242. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

DEBORAH J. R. CLARK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600